Industry Forecast

Prepared for the
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Presentation Outline

- Current conditions and trends in the general economy
- Demand for metal castings & trends
- Changes in the foundry industry
- Implications for industry suppliers
In Brief - The Conclusions

• Recovery under way -- could be stronger than expected
• Positive casting outlook
• Consolidations, closures - effect of improved productivity
• A smaller, more demanding market - but there are opportunities
### A surprising turnaround --

#### Key Economic Trends

<table>
<thead>
<tr>
<th>Economic Indicator</th>
<th>Most Recent Period</th>
<th>Prior Period</th>
<th>Year Ago Period</th>
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</thead>
<tbody>
<tr>
<td>Gross Domestic Product - Fourth Quarter 2001 \ Chained 1996 $ Billion - Annual Rate)</td>
<td>1.7%</td>
<td>-1.3%</td>
<td>1.9%</td>
</tr>
<tr>
<td>Industrial Production - February 2002 \ 1992 = 100</td>
<td>137.6</td>
<td>137.1</td>
<td>143.9</td>
</tr>
<tr>
<td>Durable Goods Orders - February 2002 \ $ Billion</td>
<td>179.4</td>
<td>176.7</td>
<td>190.3</td>
</tr>
<tr>
<td>Producer Price Index - February 2002 \ 1982 = 100</td>
<td>137.8</td>
<td>137.5</td>
<td>141.7</td>
</tr>
<tr>
<td>Personal Spending - Fourth Quarter 2001 \ Chained 1996 $ Billion - Annualized)</td>
<td>6,540.3</td>
<td>6,443.9</td>
<td>6,341.1</td>
</tr>
<tr>
<td>Net Exports - Fourth Quarter 2001 \ Chained 1996 $ Billion - Annualized)</td>
<td>(408.7)</td>
<td>(411.0)</td>
<td>(421.0)</td>
</tr>
</tbody>
</table>

Source: Department of Commerce
In motor vehicles --

U. S. AUTO AND LIGHT TRUCK SHIPMENTS

MILLION UNITS

Mar Apr May June July Aug Sep Oct Nov Dec Jan Feb

Current Year
Prior Year
And housing...
Especially as compared to just a few months ago!

<table>
<thead>
<tr>
<th>Median Forecast of GDP and Related Items</th>
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<tbody>
<tr>
<td></td>
<td>2000</td>
<td>2001</td>
</tr>
<tr>
<td>Real GDP, chained dollars</td>
<td>4.1</td>
<td>1.1</td>
</tr>
<tr>
<td>Personal consumption expenditures</td>
<td>4.8</td>
<td>2.7</td>
</tr>
<tr>
<td>Business fixed investment</td>
<td>9.9</td>
<td>-3.7</td>
</tr>
<tr>
<td>Residential investment</td>
<td>0.8</td>
<td>1.2</td>
</tr>
<tr>
<td>Government consumption expenditures and gross investment</td>
<td>2.7</td>
<td>3.4</td>
</tr>
<tr>
<td>Industrial production</td>
<td>5.6</td>
<td>-3.3</td>
</tr>
<tr>
<td>Car and light truck sales (mil. units)</td>
<td>17.2</td>
<td>16.8</td>
</tr>
<tr>
<td>Housing starts (mil. units)</td>
<td>1.57</td>
<td>1.59</td>
</tr>
<tr>
<td>Oil price (West TX intermediate, $/bbl.)</td>
<td>30.30</td>
<td>26.00</td>
</tr>
</tbody>
</table>

Source: Federal Reserve Bank of Chicago, November, 2001
You know what they say about pictures...
We conclude --

- The consumer economy is in reasonably good shape
- -- But, industrial production is less of a factor than it used to be
- And, in consequence, investment in plant and equipment is lagging
The U.S. foundry industry in 2002

- 2,700 plants, compared to about 3,300 in 1990
- Continuing attrition - not quite one plant per week
- **BUT** some new plants, AND additions to capacity - 400,000 annual tons in 2000, per AFS
Some recovery in casting shipments, beginning this year.
But what about the equipment market? We need to look at productivity...

NONFARM INDUSTRIAL PRODUCTIVITY, 1959-2000

Percent change, year to year

In general --

- 1960s - last decade of U.S. economic dominance - spectacular improvements
- 1970s - energy crisis, inflation, nonproductive government regulations - a collapse
- 1980s - end of inflation, some stabilization - “Reaganomics”
- 1990s - high growth, no inflation, and a surprising (and not well understood) acceleration in productivity
A couple hypotheses

• Lean manufacturing, just-in-time inventory management, etc.

• The computer/internet thing

• But the economists weren’t sure...
...Until Cummins and Violante published their paper (Jan. 2002)

- It is the computer: “Technological improvement in equipment and software”
- It did accelerate in the 1990s, by about 50%
- And it affected productivity positively in ALL industries, not just the high-tech
And, finally, the best performers really are getting better!
Conclusions: Some limited new and replacement capacity, around 2003-2004

CHANGES IN PRODUCTIVITY AS COMPARED TO CHANGES IN CASTINGS SHIPMENTS

-8 -6 -4 -2 0 2 4 6

Per cent change, year to year


Nonfarm productivity

Castings shipments in tons
And some other suggestions

- Focus on the leaders’ business - what they want and what they need
- Expect demands for quick payback/high ROI
- Blockbuster improvements likely to exist in nay department, and in integrated systems (broaden the line?)
- Payoff is in electronics, computer
- Build a foundry “on spec?”